

Local Hazard Mitigation Plan ANNEX

City of San José

Introduction

The City of San José is the largest city in Santa Clara County, California, as well as the largest city in the Bay Area, and the third largest city in California. As such, it ranks as the 10th largest metropolitan area in the United States. The City has a population of 954,000 persons, based on the 2000 census.¹ The City's budget in FY 2006/2007 was \$3.01 billion. The City employs 6,672 people. The City provides local police and fire services, and administers the Mineta San José International Airport. However, the City's water is supplied by four separate private retail companies (San José Water Company, Great Oaks Water Company, San José Municipal Water Service, and California Water Service Company).

The Planning Process

This process of preparing this plan was familiar to the City of San José. The City has a Safety Element to its General Plan last updated in 1994 that includes a discussion of fire, earthquake, flooding, and landslide hazards. The City has just begun a two-year process of updating the General Plan that will include updating the Safety Element. In addition, the City routinely enforces the requirements of the California Environmental Quality Act (CEQA), which, since 1988, have required mitigation for identified natural hazards. The City's effort has emphasized building on these pre-existing programs and identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

Many of the activities conducted by the City were fed into the planning process for the multi-jurisdictional plan. The City participated in various ABAG workshops and meetings, including the general "kick-off" meeting and numerous discussions on regional policy by ABAG's Regional Planning Committee and Executive Board. ABAG's current President is Dave Cortese, a Councilmember from San José. San José OES staff also actively participated on ABAG's Earthquake and Hazards Outreach Committee that developed the strategies for mitigation of hazards to housing and the economy. In addition, the City has provided written and oral comments on the multi-jurisdictional plan. Finally, the City provided information on facilities that are viewed as "critical" to ABAG.

Prior to a meeting of key City staff on February 27, 2007 general priorities and appropriate City departments were identified for participation in the planning process. The meeting on February 27, 2007 included the directors of Office of Emergency Services and Housing and the Chief Information Officer (Information Technology); the assistant director of Transportation; the deputy directors of General Services and Public Works; two Fire Department deputy chiefs; executive staff from the Airport and Housing as well as Planning, Building & Code Enforcement; and senior staff from Economic Development, Police, Environmental Services, Redevelopment Agency, and Emergency Services. With the facilitation of an ABAG

¹ For complete Census information on this city, see <http://www.bayareacensus.ca.gov/>.

representative, the team completed the Infrastructure Mitigation Strategies, agreed to follow up sessions between departments with possible joint interests in other mitigation categories and identified preliminary budgets and potential funding sources for strategies designated as “High.” An opportunity for public comment on the final mitigation strategies selected by staff was provided at the City Council meeting on April 10, 2007 at which time the resolution adopting the plan and strategies was on the City Council agenda, also. The mitigation strategies will become an implementation appendix to the Safety Element when the General Plan is revised in 2009.

Hazard and Risk Assessment

The ABAG multi-jurisdictional Local Hazard Mitigation Plan, to which this is an Annex, lists nine hazards that impact the Bay Area. Five are related to earthquakes (faulting, shaking, earthquake-induced landslides, liquefaction, and tsunamis) and four are related to weather (flooding, landslides, wildfires, and drought). Except for tsunamis, those hazards also impact this community. San José is impacted by the South Hayward Fault, which directly affects five critical facilities in the City. Those facilities are primarily related to the municipal water supply.

While the City has undertaken a number of general hazard mapping activities since the first Safety Element was prepared, most of those maps are less detailed and are not as current as those shown on the ABAG website at <http://quake.abag.ca.gov/mitigation/>. However, wildfire and Flood Insurance Rate Maps (FIRMs) are the “Q3” version, so they are, in part, out of date. ABAG plans to update those maps as soon as available from FEMA.

San José has had a number of landslides in the hills on the east side of the City, including one that damaged 12 homes in 1980. This additional hazard information was included at the City Council meeting held on February 28, 2005. Eight landslides have occurred in San José outside of CGS Landslide Zones.

Information on disasters declared in Santa Clara County can be found at <http://quake.abag.ca.gov/mitigation/disaster-history.html>

In the last year, the City has experienced:

- ◆ Potential flooding due to winter storms in April, 2006.
- ◆ Record high temperatures compounded by widespread power outages in July 2006.
- ◆ An increase in the Homeland Security threat advisory level from yellow to orange at Mineta San José International Airport in August, 2006.
- ◆ A wildfire in a neighboring community that occurred on a “red flag” day in October, 2006 and
- ◆ Record cold temperatures in January, 2007.

The City examined the hazard exposure of urban land based on the information on ABAG’s website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 81,260 **urban** acres in the City:

- ◆ Earthquake faulting – 902 acres are in a fault study zone identified by the California Geological Survey as part of the Alquist-Priolo Earthquake Fault Zoning Act.
- ◆ Earthquake shaking – 59,281 acres are in the highest two categories of shaking potential, in large part because the Hayward Fault runs next to the eastern portion of the City and the San Andreas Fault runs near the western portion of the City.

- ◆ Earthquake-induced landslides – the California Geological Survey has completed mapping of 93% of San José’s urban land, identifying 3,336 acres within landslide hazard study zones. The remaining areas are being mapped at this time and will be incorporated into updates of San Jose’s LHMP annex.
- ◆ Earthquake liquefaction – 59,467 urban acres are in areas of moderate, high, or very high liquefaction susceptibility.
- ◆ Tsunamis – Tsunamis, in general, are a hazard to coastal areas. There is one poorly documented historic example of a tsunami impacting San Jose when a person drowned in the area that is now Alviso. However, the hazard is relatively low. If a 42-foot wave entered the Golden Gate (the wave height being used for the tsunami evacuation maps currently being prepared), the wave would only be 10% as large in Alviso, or 4.2 feet. The probability of such a wave has not been determined, but it is believed to be quite low – much lower than for an earthquake impacting the City. As of November, 2006, State OES awarded a grant to do further mapping and probability analysis for San Francisco Bay. (See page 48 and 49 of the MJ-LHMP for more information.)
- ◆ Flooding – 11,946 urban acres are in the 100-year flood plain, while an additional 930 urban acres are in the 500-year flood plain and other flood-prone areas.
- ◆ Landslides – 1,540 urban acres are in areas of existing landslides.
- ◆ Wildfires – 3,470 urban acres are subject to high, very high, or extreme wildfire threat (because of the urban nature of the City), but 11,547 in the non-urban areas are subject to this threat (40.5% of the non-urban acres in the City). In addition, 27,028 urban acres are in wildland-urban interface (WUI) threat areas, while 5,437 non-urban acres are in this WUI area. The authors of the Wildland-Urban-Interface Threat Map at the California Department of Forestry and Fire Protection have determined that an error was made in designating some of the low-lying areas near the Bay as having a “Wildland-Urban-Interface Threat.” ABAG and the City of San José will continue to work with CDF to ensure that future maps resolve this issue.
- ◆ Dam Inundation – 32,438 urban acres are subject to dam inundation.
- ◆ Drought – all 81,260 acres are subject to drought.

The City also examined the hazard exposure of infrastructure based on the information on ABAG’s website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 2,571 miles of roadway in the City (as identified by ABAG’s GIS in 2004),

- ◆ Earthquake faulting – 22 miles of roadway are in a fault study zone identified by the California Geological Survey as part of the Alquist-Priolo Earthquake Fault Zoning Act.
- ◆ Earthquake shaking – 1,874 miles of roadway are in the highest two categories of shaking potential.
- ◆ Earthquake-induced landslides – the California Geological Survey has completed mapping of 93% of San José’s urban land. A total of 77 miles of roadway are in this zone. However, 30 miles of roadway have not yet been mapped. The remaining areas are being mapped at this time and will be incorporated into updates of San José’s LHMP annex.
- ◆ Earthquake liquefaction – 1,936 miles of roadway are in areas of moderate, high, or very high liquefaction susceptibility.
- ◆ Tsunamis – See the discussion under land use.
- ◆ Flooding – 353 miles of roadway are in the 100-year flood plain, while an additional 41 miles are in other flood-prone areas.

- ◆ Landslides – 36 miles of roadway within San Jose’s sphere of influence (including county pockets) are in areas of existing landslides.
- ◆ Wildfires – 86 miles of roadway are subject to high, very high, or extreme wildfire threat, while 789 miles of roads are in wildland-urban interface threat areas.
- ◆ Dam Inundation – 991 miles of roadway are in an area subject to dam inundation.
- ◆ Drought – while drought is not a direct hazard for roadways, heat waves and low humidity can affect road integrity. The entire City is subject to drought and heat.

Finally, the City examined the hazard exposure of critical health care facilities, schools, and city-owned buildings based on the information on ABAG’s website at

<http://quake.abag.ca.gov/mitigation/pickcrit.html>. Of the 205 critical facilities owned by the City,

- ◆ Earthquake faulting – 5 facilities owned by the City are in a fault study zone identified by the California Geological Survey as part of the Alquist-Priolo Earthquake Fault Zoning Act.
- ◆ Earthquake shaking – 175 are in the highest two categories of shaking potential.
- ◆ Earthquake-induced landslides – the California Geological Survey has completed mapping of 93% of San Jose’s urban land. A total of 2 facilities owned by the City are in this zone. However, 5 facilities are in areas that have not yet been mapped. The remaining areas are being mapped at this time and will be incorporated into updates of San Jose’s LHMP annex.
- ◆ Earthquake liquefaction – 163 facilities owned by the City are in areas of moderate, high, or very high liquefaction susceptibility, four schools are located in these areas.
- ◆ Tsunamis – See the discussion under land use.
- ◆ Flooding – 50 City-owned facilities are in the 100-year flood plain, while an additional 2 facilities are in other flood-prone areas.
- ◆ Landslides – three City-owned facilities are in areas of existing landslides.
- ◆ Wildfires – seven City-owned critical facilities are subject to high, very high, or extreme wildfire threat, while 78 City-owned facilities are in wildland-urban interface threat areas.
- ◆ Dam Inundation – 99 City-owned critical facilities are in an area subject to dam inundation.
- ◆ Drought – Drought will not affect City-owned buildings directly. However, the City’s Environmental Services Department provides water to 10% of its population.

A total of seven properties have had repetitive flood losses resulting in 19 claims totaling \$154,000. Of these properties, six are in the 100-year flood plain, while one is outside of this area. For additional information, see the information at <http://quake.abag.ca.gov/mitigation/pickflood.html>.

The City plans to continue to work with ABAG to improve the risk assessment information being compiled by ABAG on unreinforced masonry buildings and soft-story apartments located in the City.

Drought, though a potential problem in the City, is not fully assessed. The City will work with ABAG and various water supply agencies on this issue.

The City plans to continue to work with ABAG to develop specific information about the kind and level of damage to buildings, infrastructure, and critical facilities which might result from any of the hazards previously noted.

As these impacts are not fully developed, the City has reviewed the hazards identified and ranked the hazards based on past disasters and expected future impacts. The conclusion is that earthquakes (particularly shaking), flooding, wildfire, landslides (including unstable earth) and hazardous material incidents (as the result of natural occurrences) pose a significant risk for potential loss.

Mitigation Activities and Priorities

As a participant in the ABAG multi-jurisdictional planning process, City of San José staff helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The list was discussed at a meeting of the key City staff on February 27, 2007 as described above under The Planning Process. All mitigation strategies were reviewed and tentative decision-making regarding priorities reflected a variety of criteria and not simply an economic cost-benefit analysis. This process was carried out in subsequent choices regarding priorities, also. Prioritization criteria included technical and administrative feasibility, political acceptability, social appropriateness, legal and economic soundness, sensitivity to environmental harm, and community heritage.

Over time, the City is committed to developing better hazard and risk information for use in making trades-offs. City staff recognizes that while we cannot create a disaster-proof community, we can – and are committed – to creating a disaster-resistant one. In addition, many of the strategies are existing City programs.

These draft priorities were submitted to the City Manager for review. Final priorities were submitted to the City Council on April 10, 2007. The public was provided with an opportunity to comment on the final priorities. The final strategies (as shown in the attached Table) will become an *Implementation Appendix* to the City's *Safety Element*.

In addition, the City examined the hazard exposure information to City-owned critical facilities supplied by ABAG. The City has determined that the combination of construction type, age, and shaking exposure to Fire Station No. 2 is significant. This station will be retrofitted through a Public Safety Bond allocation starting in the summer of 2007 with completion expected in the summer of 2008.

The Plan Maintenance and Update Process

The City Manager's Office will ensure that **monitoring** of this Annex will occur. The plan will be monitored on a continuing basis. However, major disasters that may affect our community, legal changes, notices from ABAG as the lead agency in this process, and other triggers will be used to initiate more frequent review. Finally, the Annex will be a discussion item on the agenda of the meeting of City department heads annually. At that meeting, department heads will focus on **evaluating** the Annex in light of technological and political changes during the past year or

other significant events. This group will be responsible for determining if the plan should be updated.

The City of San José is committed to reviewing and **updating** this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. The City Planning Director will contact ABAG four years after this plan is approved to ensure that ABAG intends to undertake the plan update process. If so, the City again anticipates participating in the multi-jurisdictional plan. If ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the County's Office of Emergency Services. Counties should then work together to identify another regional forum for developing a multi-jurisdictional plan.

The **public** will continue to be involved whenever the plan is updated and as appropriate during the monitoring and evaluation process. Prior to adoption of updates, the City will provide the opportunity for the public to comment on the updates. A public notice will be posted prior to the meeting to announce the comment period and meeting logistics.